

[proliferating] non-quiescent somatic cell or a nucleus isolated from said

[proliferating] non-quiescent somatic cell.

19  
~~87.~~

An improved method of cloning a non-human mammal by nuclear transfer comprising the introduction of a non-human mammalian donor cell or a non-human mammalian donor cell nucleus into a non-human mammalian enucleated oocyte of the same species as the donor cell or donor cell nucleus to form a nuclear transfer (NT) unit, implantation of the NT unit into the uterus of a surrogate mother of said species, and permitting the NT unit to develop into the cloned mammal, wherein the improvement comprises using as the donor cell or donor cell nucleus a [proliferating] non-quiescent somatic cell or a nucleus isolated from said [proliferating] non-quiescent somatic cell, and wherein the donor cell or donor cell nucleus has been genetically transformed to comprise at least one addition, substitution or deletion of a nucleic acid sequence.

20  
~~88.~~

A method of cloning a non-human mammal by nuclear transfer comprising the following steps:

- (i) inserting a desired non-human mammalian [proliferating] non-quiescent somatic cell or a nucleus isolated from said [proliferating] non-quiescent somatic cell, into a non-human mammalian enucleated oocyte of the same species under conditions suitable for the formation of the nuclear transfer (NT) unit;
- (ii) activating the resultant nuclear transfer unit;

(iii) culturing said activated NT unit until greater than the 2-cell developmental stage; and

(iv) transferring said cultured NT unit to a host non-human mammal of the same species such that the NT unit develops into a non-human mammal.

~~21~~  
89.

An improved method of cloning a non-human mammalian fetus by nuclear transfer comprising the introduction of a non-human mammalian donor cell or a non-human mammalian donor cell nucleus into a non-human mammalian enucleated oocyte of the same species as the donor cell or donor cell nucleus to form a nuclear transfer (NT) unit, implantation of the NT unit into the uterus of a surrogate mother of the same species, and permitting the NT unit to develop into the mammalian fetus, wherein the improvement comprises using as the donor cell or donor cell nucleus a [proliferating] non-quiescent somatic cell or a nucleus isolated from said somatic cell.

~~22~~  
90.

An improved method of cloning a non-human mammalian fetus by nuclear transfer comprising the introduction of a non-human mammalian donor cell or a non-human mammalian donor cell nucleus into a non-human mammalian enucleated oocyte of the same species as the donor cell or donor cell nucleus to form a nuclear transfer (NT) unit, implantation of the NT unit into the uterus of a surrogate mother of the same species, and permitting the NT unit to develop into the mammalian fetus, wherein the improvement comprises using as the donor cell or donor cell nucleus a [proliferating] non-quiescent somatic cell, or a nucleus isolated from said proliferating somatic cell, and wherein the donor cell or donor cell nucleus has been genetically

modified to comprise at least one addition, substitution or deletion of a nucleic acid sequence.

23  
91.

A method of cloning a non-human mammalian fetus by nuclear transfer comprising the following steps:

- (i) inserting a desired non-human mammalian [proliferating] non-quiescent somatic cell, or a nucleus isolated from said [proliferating] non-quiescent somatic cell, into a non-human mammalian enucleated oocyte of the same species under conditions suitable for the formation of a nuclear transfer (NT) unit;
- (ii) activating the resultant nuclear transfer unit;
- (iii) culturing said activated NT unit until greater than the 2-cell developmental stage; and
- (iv) transferring said cultured NT unit to a host non-human mammal of the same species such that the NT develops into a fetus.

[ Please cancel Claim 109 without prejudice.